

FIG. 1

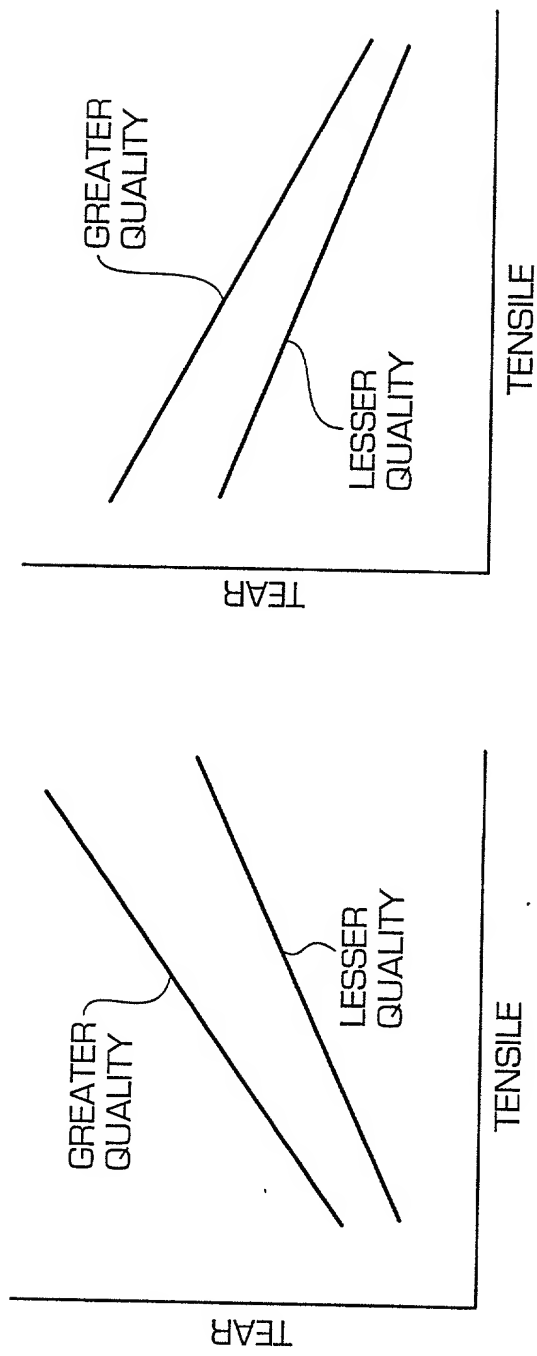
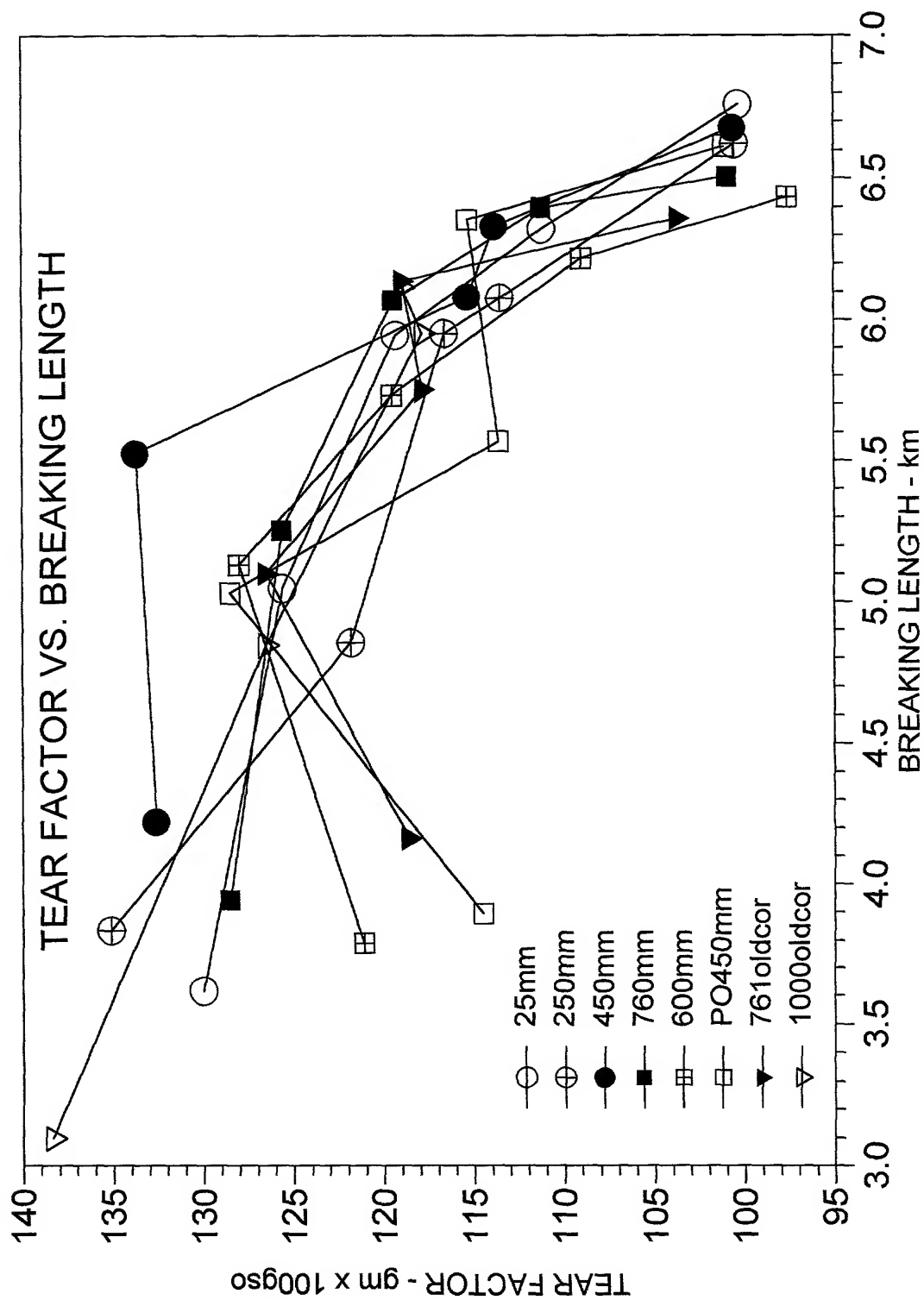
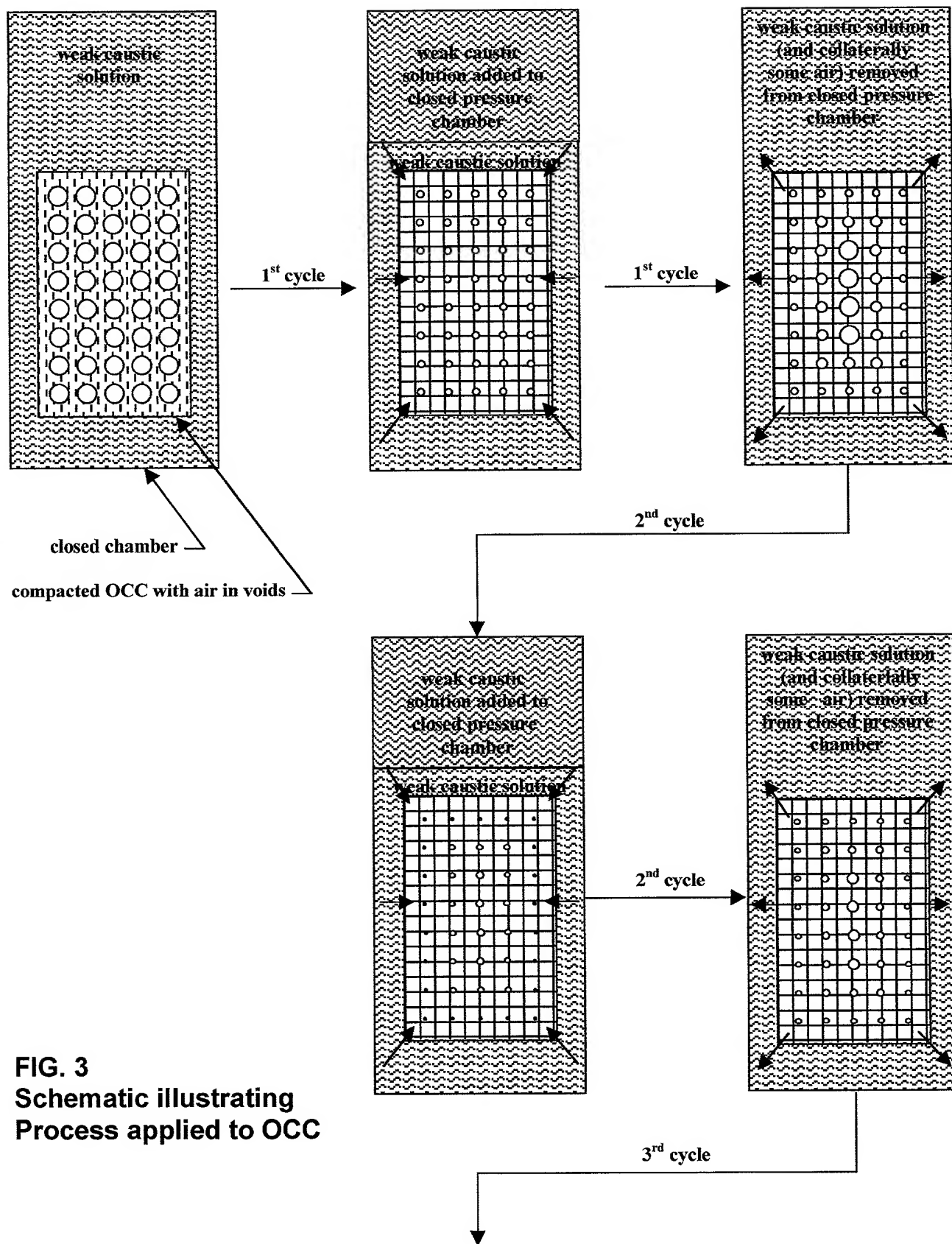


FIG. 2

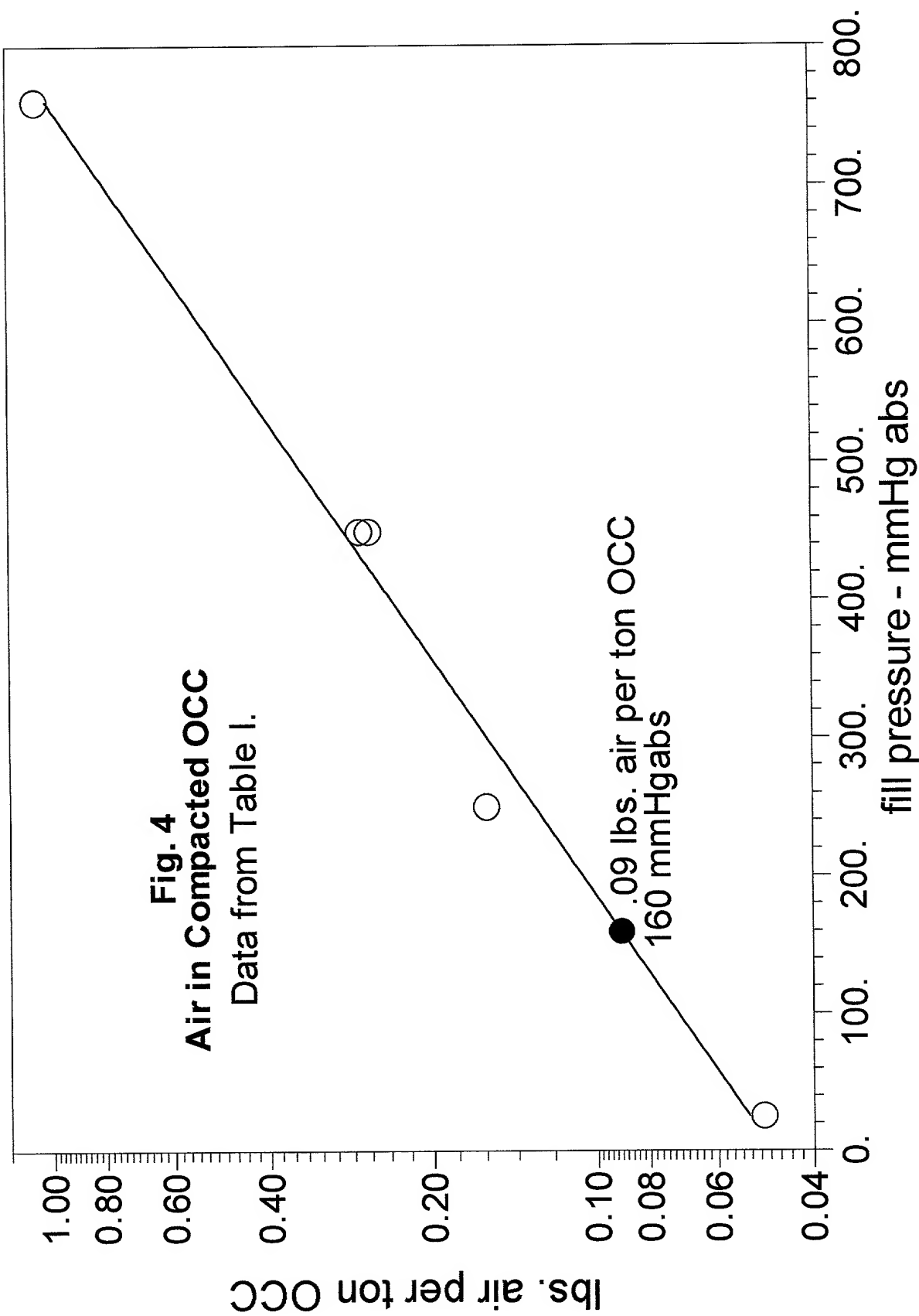


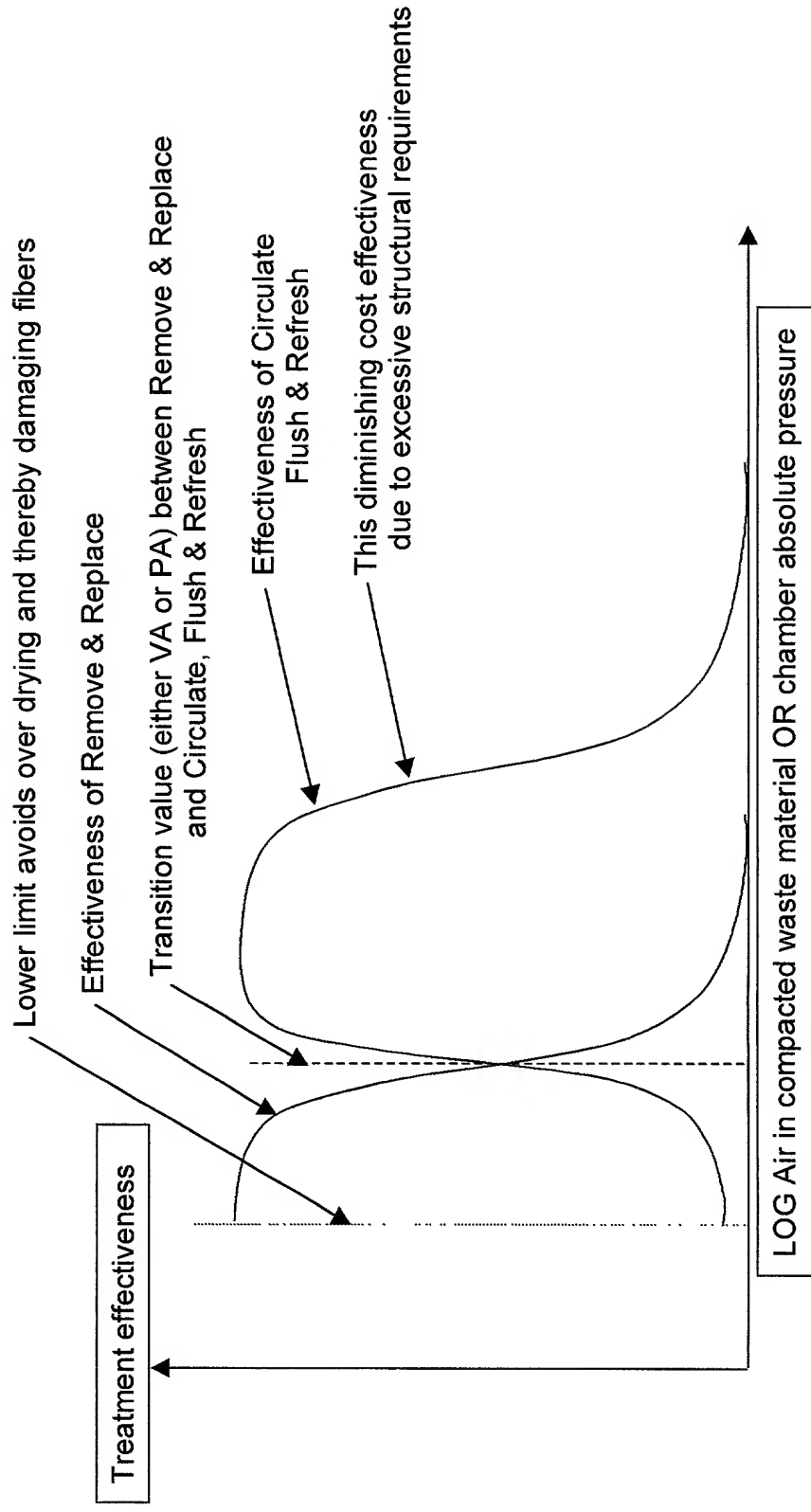
## Fluid Exchange Process Diagram



**FIG. 3**  
Schematic illustrating  
Process applied to OCC

**Fig. 4**  
**Air in Compacted OCC**  
Data from Table I.





**Fig. 5**  
**Domains of Effectiveness of Prior "Remove & Replace"**  
**Inventions and of New "Circulate, Flush & Refresh" Invention**

Table I.  
Air in Compacted OCC

1 Air weight calculations utilizing 400 gram sample of OCC		Equations for sample data point C in column C						
2	Cross-sectional Area Of Laboratory Closed Pressure Chamber - square mm	4744	C17	$\$C3 \times C15$				
3	Hg. Density	13.6	C18	C17				
4	Cubic mm/cubic feet	28316847	C19	$C17 * (C13 + C16 / \$C4) / (C14 - C13 - C15 / \$C4)$				
5	Grams/pound	453.6	C20	C18 + C19				
6	Pounds/ton	2000	C21	$(C14 + (C16 - C15 / \$C4)) / (\$C9 * \$C8)$				
7	Air std. atm. spec vol. - cubic feet/pound	13.08	C22	$(C13 + C16 / \$C4) / (\$C9 * \$C8)$				
8	Air std. atm. pressure - mm Hg.	760	C25	$(C22 * C20 / \$C5) / (400 / \$C6) * \$C7$				
9	Data points	C	D	E	F	G		
10	p1 = Fill pressure - mm HG abs	250	25	760.4	450	450		
11	p2 = pressure after addition of air to top of closed pressure chamber - mm Hg abs	5936	767.4	5936	5936	772		
12	Drop in free surface of weak caustic solution after air additionHeight difference - mm	15	30	31	14	6		
13	Distance from free surface @ p1 to center of compacted OCC - mm	215	215	215	215	215		
14	Weak caustic solution volume forced into compacted OCC by air addition - cubic mm	71160	142320	147064	66416	28464		
15	V1-V2 = Decrease in volume of air in compacted OCC caused by air addition - cubic mm	71160	142320	147064	66416	28464		
16	V2 = Compacted volume @ p2 + (compacted distance down to V2)/13.6 - cubic mm	3327	7846	22066	5640	41233		
17	V1 = Initial volume @ p1 + (initial distance down to V1)/13.6 - cubic mm	74487	150166	169130	72056	69697		
18	Compacted density in V2 - lbs/cubic foot	0.59861	0.07857	0.59850	0.59862	0.07921		
19	Initial density in V1 - lbs/cubic foot	0.02674	0.00411	0.07808	0.04686	0.04686		
20	Fill pressure - mm HG	250	25	760.4	450	450		
21	Air in Compacted OCC - lbs. air per ton OCC	0.15952	0.04937	1.05773	0.27043	0.26158		